

Amendments to and listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~Device~~A device for separating magnetic or magnetizable particles ~~(30)~~ from a liquid by using a magnetic field, ~~wherein said the device (1) comprises~~
comprising:

two limbs ~~(2, 3)~~ made of a soft-magnetic material, each limb forming a magnetic pole;
- an air gap between the two poles ~~(4, 5)~~ of the limbs ~~(2, 3)~~ ~~there is an air gap (12) which is,~~
the air gap being suitable for receiving at least one container ~~or a plurality of containers (9,~~
~~10);~~

- a head piece ~~(8)~~ is arranged in a fixed or detachable manner on one of the two poles ~~(4),~~
and at least one magnetizable bar ~~or a plurality of magnetizable bars (7)~~ ~~is/are~~ disposed
vertically in a fixed or movable manner on ~~said the~~ head piece, ~~in the vertical direction;~~

—— a at least one permanent magnet ~~(15)~~ ~~or a group of at least two permanent magnets~~ is
movably arranged on at least one point of the device, ~~such that for producing a magnetic field~~
~~(17) can be produced~~ between the two poles ~~(4, 5)~~ and, wherein the magnetic field ~~can be~~
activated or deactivated by moving the magnet(s) ~~(15), and wherein; and~~

—— that a material arranged at least partially surrounding a region of the device
~~wherein~~ where the at least one movable magnet(s) ~~is/are arranged is at least partially~~
~~surrounded by a material (20) which screens~~ is located to screen the magnetic field.

2. (Currently Amended) ~~Device~~The device according to claim 1, ~~characterized in~~
~~that~~wherein the two limbs ~~(2, 3)~~ are connected with each other at ~~the~~ a side ~~(6)~~ opposite the poles
~~(4, 5)~~ and, thereby ~~form~~forming a magnetic circuit ~~(iron circuit).~~

3. (Currently Amended) ~~Device~~The device according to claim ~~1 or 2,~~ ~~characterized~~
~~in that~~2, wherein the at least one movable magnet(s) ~~is/are~~ arranged to be movable within the
~~iron circuit such that they are movable, particularly rotatable, or that the magnet(s) is/are~~

~~arranged such that it/they can be moved into the magnetic circuit from the outside and then again out of the said~~magnetic circuit.

4. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the region of the device~~claim 3, wherein the ~~movable magnet(s) is/are arranged~~rotatable within the ~~iron circuit is at least partially surrounded by a material which screens the magnetic field~~magnetic circuit.

5. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that in the case of the magnet(s) moving within or into the iron circuit, the region of the device wherein the movable magnet(s)~~The device according to claim 2, wherein the at least one movable magnet is/are arranged within the iron circuit is at least partially surrounded by a material which screens the magnetic field arranged to be movable into the magnetic circuit from outside and then again out of the magnetic circuit.

6. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the permanent magnet(s) are~~claim 1, wherein the ~~at least one movable magnet is~~ arranged ~~such that they are~~to be rotatable or tiltable, in a recess ~~(16)~~of the device provided for that purpose.

7. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the permanent magnet(s)~~claim 1, wherein the ~~at least one movable magnet is/are provided~~arranged in a displaceable manner, in a recess ~~(16)~~of the device provided for that purpose.

8. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the permanent magnet(s)~~claim 5, wherein the ~~at least one movable magnet is/are~~ arranged on a rotatable support ~~(40)~~by means of which the ~~said permanent~~at least one movable magnet(s) can be moved into the magnetic circuit and then again

out of the ~~said~~ circuit.

9. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the~~claim 1, wherein movement of the ~~permanent~~at least one movable magnet(s) is accomplished by ~~means of~~ an electric motor ~~or by~~, pneumatic or hydraulic ~~means~~drive.

10. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the~~claim 1, wherein an extent of ~~the movement, particularly the rotation angle or the distance of displacement, of the permanent magnet(s)~~movement of the at least one movable magnet can be predetermined ~~in order to set the~~a magnetic field strength to a desired value.

11. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the~~claim 1, wherein a region of the magnetic circuit ~~wherein~~in which the at least one movable magnet(s) is ~~are~~ arranged is completely surrounded by ~~a~~the material which screens the magnetic field, ~~said~~the screening ~~preferably~~ being provided in ~~the~~a form of a short circuit ring ~~(20)~~.

12. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the~~said claim 1, wherein the head piece (8) is movable in ~~the~~a horizontal plane, ~~preferably~~ for carrying out a shaking motion.

13. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that the~~said claim 1, wherein the head piece (8) carries a plurality of ~~the magnetizable bars (7)~~arranged in rows.

14. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that~~claim 1, wherein the head piece (8) is attached to one of the two

poles in a ~~replaceable~~detachable manner.

15. (Currently Amended) ~~Device according to any one of the preceding claims, characterized in that the said bar(s) (7) are~~The device according to claim 1, wherein the at least one magnetizable bar is arranged in a rotatable manner and~~can preferably be rotated~~is rotatable around ~~the~~a longitudinal axis by ~~means of~~ an electromotive drive.

16. (Currently Amended) ~~Device according to any one of the preceding claims, characterized in that the said bar(s) (7) are each~~The device according to claim 1, wherein the at least one magnetizable bar is covered with a strippable, replaceable envelope~~(25)~~.

17. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding claims, characterized in that~~claim 1, wherein at least one ~~holding device (11)~~holder for the ~~said~~at least one container(s) (9, 10) is associated to saidwith the device, which holding device (11) isthe at least one holder being suitable for positioning the at least one container(s) below the ~~said~~ head piece and the bars arranged thereon.

18. (Currently Amended) ~~Device~~The device according to claim 17, ~~characterized in that the said holding device(s) can be moved in the~~wherein the at least one holder is movable in a horizontal plane and/or vertically, preferably by an electromotive drive or by, pneumatic or hydraulic meansdrive.

19. (Currently Amended) ~~Device~~The device according to claim 18, ~~characterized in that the holding device(s) is/are~~wherein the at least holder is adapted for carrying out shaking movements.

20. (Currently Amended) ~~Device~~The device according to ~~any one of claims 17 to 19, characterized in that the holding device(s) is/are~~claim 17, wherein the at least holder is a component of a program-controlled laboratory robot system and is/are adapted such thatto are

alternately move groups of or a plurality of individual ones of the said containers or of groups of such containers, particularly microtitre plates, are alternately moved into a position below the ~~said~~ bars and subsequently, after a ~~predeterminable~~predetermined time interval, again into a position ~~which is~~ outside the region below the bars, and wherein the groups or plurality of containers comprise microtiter plates.

21. (Currently Amended) ~~Device according to any one of claims 17 to 20,~~
~~characterized in that the vertical motion of the holding device(s) (11) can be open-loop~~
~~controlled or closed-loop~~The device according to claim 18, wherein the at least one holder is
moved vertically, the vertical movement being controlled by an open-loop control unit or a
closed-loop control unit, ~~in such a manner that in the case of~~ an upward movement of the at
least one holder causes an immersion of the bars (7) into the liquid-filled containers (10) is
~~caused~~liquid in the at least one container.

22. (Currently Amended) ~~Device~~The device according to ~~any one of the preceding~~
~~claims, characterized in that~~claim 1, further comprising a program-controlled processor is
associated ~~to~~with the device and ~~is connected therewith thereto,~~ by ~~means of~~ which at least one
of the following functions of the device ~~can be~~is controlled by open-loop ~~controlled~~control or
closed-loop ~~controlled~~control, or by ~~means of~~ which at least two of the following functions
~~mentioned below can be~~are coordinated with one another:

- movement of the ~~permanent~~at least one movable magnet(s) to activate and deactivate the
magnetic field, ~~particularly the~~including at least one of duration of ~~the~~ activated and
deactivated phases, ~~as well as~~and magnetic field strength;
- rotation speed and duration of rotation ~~in the case of~~ rotatable bars;
- movement of the head piece in a horizontal plane, ~~particularly~~including at least one of
duration, frequency and amplitude of a shaking motion;
- movement of the ~~holding device(s)~~at least one holder to position the at least one
container(s) ~~or groups of containers~~ alternately below the bars and subsequently to remove
~~them~~the at least one container from that position, ~~particularly the~~including at least one of

velocity and frequency of the ~~movements, as well as the~~movement and dwell time of the ~~holding device~~at least one holder below the ~~bars~~at least one bar;

- vertical movement of the ~~holding device~~at least one holder to immerse the at least one bar~~the bars~~ into the liquid of the at least one container(s) and remove the ~~same therefrom~~particularly liquid from the at least one container, including immersion depth, duration and frequency, of the vertical movement; and
—— ~~if provided,~~ rotation or shaking motion of the ~~holding device(s), particularly~~at least one holder, if provided, including rotation speed, rotation amplitude and intervals between the individual operation phases of the rotation or shaking motion.

23. (Currently Amended) ~~Device~~The device according to claim 1, further comprising at least one or more of the preceding claims, characterized in that one or more of the below-mentioned means are of the following means associated to with the said device, the wherein functions of ~~said the~~ means being are coordinated with ~~the~~ functions of the ~~said~~ device by ~~means~~ of a common control:

- at least one or more thermostatable heating or cooling means;
- at least one or more pipetting ~~stations~~station for metered addition of liquids, ~~especially~~including reagents;
- at least one or more suction means for exhausting liquid from the ~~containers~~at least one container by suction;
- at least one or more means for shaking or intermixing ~~the~~ liquids contained in the ~~containers~~at least one container; and
- analytic apparatuses, ~~particularly~~ for photometric measuring or luminescence detection.

24. (Currently Amended) ~~Device~~A method for separating a target substance from a mixture of substances ~~which is~~ present in liquid form, the method comprising the following steps:

- a) —— ~~addition of~~ a) adding to the mixture magnetic or magnetizable particles ~~that have~~having specific binding properties in relation to the target substance;

- b) placing a pre-determined volume of the mixture in ~~the~~an air gap between ~~the~~ two poles of a magnetic circuit and immersing a magnetizable bar into the mixture, ~~said~~the bar being connected with one of the ~~said~~ poles of the magnetic circuit, and ~~the~~a magnetic field of the circuit being initially deactivated;
- c) activating the magnetic field by changing ~~the~~a position of a permanent magnet arranged in or on the magnetic circuit, ~~whereby~~the change of position causing the bar is to be magnetized and the particles to accumulate at and substantially at the adhere to a lower end of the bar;
- d) immersing the bar, together with the particles adhering thereto, into a predetermined volume of a liquid that causes ~~the~~ elution of the target substance from the particles; and
- e) lifting the bar ~~out of~~from the elution liquid.

25. (Currently Amended) ~~Process~~The method according to claim 24, ~~characterized in that~~wherein, following step d), the following steps are performed:

- f) deactivating the magnetic field by an opposite change of the position of the permanent magnet, ~~whereby~~such that the particles are released into the elution liquid;
- g) mixing the particles in the elution liquid;
- h) activating the magnetic field by changing the position of ~~a~~the permanent magnet ~~arranged in or on the magnetic circuit, whereby~~such that the bar is magnetized and the particles accumulate at and substantially at adhere to the lower end of the bar; and
- i) lifting the bar ~~out of~~from the elution liquid.

26. (Currently Amended) ~~Process~~The method according to claim ~~24 or 25~~, ~~characterized in that~~24, wherein, following step c), the following steps are performed:

- k) immersing the bar, together with the particles adhering thereto, into a pre-determined volume of a wash liquid;
- l) deactivating the magnetic field by an opposite change of the position of the permanent magnet, ~~whereby~~such that the particles are released into the wash liquid;

- m) mixing the particles in the wash liquid;
- h) activating the magnetic field by changing the position of ~~a~~the permanent magnet ~~arranged in or on the magnetic circuit, whereby~~such that the bar is magnetized and the particles accumulate at and substantially ~~at~~adhere to the lower end of the bar;
- l) lifting the bar ~~out of~~from the ~~elution~~wash liquid; and
- m) ~~elution of~~eluting the target substance, as in steps d) and e)-~~of claims 24, or according to claim 25.~~

27. (Currently Amended) ~~27. — Process according to any one of claims 24 to 26, characterized in that it is carried out by using a device according to any one of claims 1 to 23. —~~ A method for separating a target substance from a mixture of substances present in liquid form using the device of claim 1.